REMARKS / ARGUMENTS

Status of Claims

Claims 1, 2, 8, 11, 13, 14, and 16 are currently pending in the subject application.

Acknowledgement of Examiner's Previous Actions

The Applicants appreciate the Examiner's withdrawal of the various objections and rejections under 35 U.S.C. § 112.

Amendments to the Specification

The Applicants respectfully request entry of the foregoing amendment to the specification. The amendment corrects an incorrectly applied reference numeral. The Applicants submit that the foregoing amendment to the specification contains no new matter.

Amendments to the Claims

The Applicants respectfully request entry of the foregoing amendments to the claims. Claims 1 and 14 are amended. The Applicants submit that the foregoing amendments to the claims contains no new matter.

Rejections

Rejections Under 35 U.S.C. § 103(a)

According to M.P.E.P. § 2143, to establish a prima facie case of obviousness, three basic criteria must be met. ***First***, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. ***Second***, there must be a reasonable expectation of success. ***Third***, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

Wigby-Ota Combination

Claims 1, 2, 8, 14, and 16 stand rejected under 35 USC §103(a) as being unpatentable over U.S. Patent No. 4,272,879 issued to Jon Wigby et al. (hereinafter referred to as "Wigby") in view of Japanese Patent No. JP9161938 issued to Yukio Ota (hereinafter referred to as "Ota").

Wigby teaches an apparatus for affixing connectors to a multiplicity of insulated conductors. (column 1 lines 26-29). Particularly, Wigby teaches a first stage of operation of an apparatus where an assembly of cables 1 are positioned between grippers 16, 18 with the end of each conductor 3 abutting a wire stop 50. Each of the individual cables are aligned by grooves 6 in the top of the wire guide 42. When the gripper block 2 is positioned between the gripper 16, 18, the ends of cables 1 are located such that the insulation wall of each cable is juxtaposed to the insulation tabs 7 of a connector and the conductor of each cable is juxtaposed to the conductor crimp tabs 9 of a connector. Next, the grippers 16, 18 are moved toward each other so as to grip the block 2 as the wire guide 42 is moved downward so that the cables and connectors associated therewith are held only by the grippers 16, 18 and the partial insertion of the connectors into the connector block, leaving the connector members in the cable end free to move laterally (toward the connector block 11 held by nest 15) while being restricted from vertical movement. (column 3 line 19 to column 4 line 40 and Figures 1-4).

Ota teaches an apparatus for positioning a connection terminal, a wire crimped to the connection terminal, and a plug body fitted to the wire, at predetermined relative positions. Positioning is accomplished by inserting wire 11 into a positioning slot 26 of a positioning member 25, abutting a rear end face of a rubber plug 10 (which is mounted to an end of wire 11) against a forward face of the stationary positioning member 25. During the aforementioned positioning, the front end of the wire 11 is positioned into a portion of a terminal 12 for joining

the terminal 12 to the wire 11. More specifically, the terminal 12 and a core wire 13 are further brought into predetermined alignment through the use of positioning member 22 which serves as a stop which abuts the terminal 12 on one side and the core wire 13 on the opposing side. After the above described positioning, crimping of the terminal 12 to the wire 11 is undertaken. It is noteworthy that the support surface 25a and/or the positioning member 25 remain stationary and vertically support wire 11 and rubber plug 10 while crimping of the terminal 12 to wire 11 takes place, thereby restricting downward movement of wire 11 and rubber plug 10.

On the other hand, one embodiment of the present invention provides a wire termination apparatus for crimping a terminal 16 to a conductive lead 46 of a fluorescent tube 44, the apparatus comprising a guide member 40 and a mounting base 80, each having a V-shaped groove 66, 81, respectively, for supporting the fluorescent tube 44. The fragile nature of the fluorescent tube 44 requires minimization of bending forces exerted on the conductive lead 46 extending from the tube 44. In conjunction with the downward travel of a ram 10, the guide member 40 is displaced away from the tube 44, leaving the tube 44 supported at one end by an upper portion of a slot 62 of the terminal 16 and supported secondarily by mounting base 80, in order to prevent damage to the tube 44, and as the crimper 34 descends toward an anvil 36. This support configuration, along with the vertical clearance provided by the escape groove 72 of positioning plate 74, allows for vertical displacement of the conductive lead 46 and the connected tube 44 during the crimping process without damaging the tube 44.

Regarding claims 1, 2, and 14, the Examiner states that Wigby discloses: (1) an anvil configured to support a collapsible terminal; (2) a crimper aligned with the anvil, and being movable toward and away from the anvil to crush and release a terminal; (3) a guide member having an upwardly open guide groove provided close to the anvil and aligned therewith for

supporting the component and guiding a conductive lead into the insertion hole in the terminal; (4) the guide member being linked via a link piece to a ram on which the crimper is mounted such that the guide member is caused to retreat from the component upon the downward motion of the crimper, before the crimper abuts the terminal; and (5) wherein a terminal placed on an anvil and having a conductive lead inserted in an insertion hole of the terminal is crushed by a crimper, thereby terminating the conductive lead. The Examiner deems it inherent that some degree of movement of guide 42 away from the wire will occur as the crimp blades begin to descend since a connecting rod mechanism is employed. The Examiner offers a reference to *Howstuffworks "Inline Four-Cylinder Engine"* in support of the finding of inherency. The Examiner concedes, and the Applicants agree, that Wigby does not disclose a positioning plate for positioning the component by abutting the tip thereof, the positioning plate having an escape groove for allowing movement of the conductive lead during termination thereof.

The Examiner further states that Ota teaches the concept of using a positioning plate to allow the tip portion of a component to be positioned at a suitable position before a crimping operation. The Examiner continues, stating that the positioning plate has an escape groove whereby the wire can move during a crimping operation. The Examiner concludes that, in view of Ota, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the apparatus of Wigby with a positioning plate as recited in claim 1.

Claim 1 requires the following, inter alia:

> a positioning plate for positioning the component to prevent interference between the crimper and the component by **abutting a tip of the component to the positioning plate**, the positioning plate having an **escape groove for allowing movement of the *conductive lead*** during termination thereof;

wherein the guide member is **directly connected** via a link piece to a ram…

The Applicants respectfully traverse the rejection of claim 1 and submit that claim 1 is not obviated by the Wigby-Ota combination since the Examiner has not established a prima facie case of obviousness as explained below.

The Applicants assert that neither Wigby nor Ota, alone or in combination, disclose a positioning plate having the features required by claim 1. The Examiner relies on the positioning member 25 shown in Figures 1 and 2 of Ota to provide the positioning plate of the present invention. However, member 25 of Ota is clearly not adapted to position the component (tube 44 of the present invention) by **abutting a tip of the component to the positioning plate**. Instead, it is clear that member 25 merely cradles wire 11 (not an equivalent to the component, tube 44, of the present invention) around its exterior cylindrical wall and allow abutment of rubber plug 10 against member 25. Further, the positioning member 25 of Ota does not have an **escape groove for allowing movement of the *conductive lead*** during termination of the conductive lead. The Examiner relies upon the positioning slot 26 to provide the escape groove required by claim 1. However, slot 26 is not adapted **for allowing movement of the *conductive lead*** during termination. Instead, slot 26 simply retains wire 11 in a stationary position and does not contribute to movement of core wire 13 during termination of wire 13.

Further, the Applicants assert that neither Wigby nor Ota, alone or in combination, disclose a guide member which is **directly connected** via a link piece to a ram. Instead, and as pointed out by the Examiner, the guide member of Wigby is connected via connecting rods interconnected with cams…for imparting such motion. (column 4 lines 40-47). Regarding the Examiner's statement that it is "inherent" that some degree of movement of guide 42 away from

the wire will occur as the crimp blades begin to descend, the patent courts have held that this is an inappropriate consideration as part of an obviousness rejection. Specifically, the law is clear that an obviousness rejection does not incorporate inherent subject matter. For example, the Patent Office Board of Appeals has stated in a non-precedential opinion of Ex parte Schricker, 56 USPQ2d 1723, 1725 (B.P.A.I. 2000) (unpublished):

> [T]he examiner talks in terms of inherency (which is really an anticipation rationale) while on the other hand the examiner talks in terms that it would have been obvious to experiment to divine optimum conditions.
>
> Inherency and obviousness are somewhat like oil and water - they do not mix well. Claimed subject matter can be anticipated because a prior art reference describes a method which inherently meets the limitations of a claimed method. Claimed subject matter can be unpatentable for obviousness when, notwithstanding a difference between that subject mater and a prior art reference, the claimed subject matter, as a whole, would have been obvious. However, when an examiner relies on inherency, it is incumbent on the examiner to point to the "page and line" of the prior art which justifies an inherent theory. (emphasis added).

In addition, the Federal Circuit Court of Appeals, and its predecessor court, the Court of Customs and Patent Appeals, have held that inherency and obviousness are not to be combined in the same rejection:

In re Sporman, 363 F.2d 444, 150 USPQ 449, 452 (C.C.P.A. 1966):

> That which may be inherent is not necessarily known. Obviousness cannot be predicated on what is unknown.

In re Newell, 891 F.2d 899, 13 USPQ2d 1248, 1250 (Fed. Cir. 1989):

> [A] retrospective view of inherency is not a substitute for some teaching or suggestion which supports the selection and use of the various elements in the particular claimed combination.

Nonetheless, it is clear that the Wigby device does not **directly connect** a guide member via a link piece to a ram. Instead, Wigby is silent to the actual connection and only teaches a possibility of **indirectly connecting** "various components."

According to M.P.E.P. § 2143.01, obviousness can only be established by combining or modifying the teaching of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so. The Applicants assert that not only is there no teaching, suggestion, or motivation provided by either Wigby or Ota to combine relevant features of each to produce the claimed invention, but Wigby and Ota actually teach away from producing the claimed invention. For example, the claimed invention is directed toward an apparatus capable of terminating a conductive lead 46 extending from a component, a fluorescent tube 44, without damaging the tube 44. To accomplish this, transfer of bending forces from the conductive lead 46 to the tube 44 is eliminated by retreating the positioning plate from the component upon the downward motion of the crimper, before the crimper abuts the terminal, and allowing movement of the conductive lead during the termination process. This arrangement provides for the rigid tube 44 to move vertically at the end being crimped/terminated while supporting the component at a different location along the component. Each of Wigby and Ota would be inoperable and/or would damage the crimped component if this functionality were incorporated, since the devices of Wigby and Ota operate with conductors which are substantially stationary during the termination process. Further, since Wigby teaches the use of grippers 16, 18 for gripping an assembly of cables 1, and restricting vertical movement but allowing lateral movement of cables 1, one of ordinary skill in the art at the time of the invention would not look to Wigby as a solution for crimping a sensitive fluorescent tube 44 or any other component which should not be gripped and/or fully restricted from vertical movement during termination. (column 4 lines 20-23).

The Applicants further point out that since the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified,

the teaching of the references are not sufficient to render the claims prima facie obvious. (see M.P.E.P. § 2143.01(V)). More specifically, combining the positioning plate 25 of Ota with the Wigby device (if even operably possible) would change the principle of operation of the Wigby device from a device which depends on a moving component support system to a stationary component support system.

For the reasons discussed above, the Applicants respectfully submit that claim 1 is patentable over the Wigby-Oto combination. Accordingly, the Applicants respectfully request that the Examiner reconsider and withdraw the rejection and allow claim 1.

Claim 1 requires the following, inter alia:

> a positioning plate for positioning the component to prevent interference between the crimper and the component by **abutting a tip of the component to the positioning plate**, the positioning plate having an escape groove for allowing movement of the conductive lead during termination thereof;

For reasons analogous to the reasons set forth above in the discussion of claim 1, the Applicants assert that claim 14 is also patentable over the Wigby-Oto combination. Specifically, claim 14 is patentable over the Wigby-Oto combination at least because neither Wigby nor Oto, alone or in combination, disclose **abutting a tip of the component to the positioning plate**.

For the reasons discussed above, the Applicants respectfully submit that claim 14 is patentable over the Wigby-Oto combination. Accordingly, the Applicants respectfully request that the Examiner reconsider and withdraw the rejection and allow claim 14.

Regarding claim 8, the Examiner states that Wigby discloses an apparatus configured to allow insertion of a second conductor into a collapsible terminal disposed on an anvil in a direction perpendicular to a conductive lead. The Examiner goes on to state that a second conductor *could* be inserted in the terminal, indicating that the apparatus *allows* the insertion of a second conductor.

Regarding claim 16, the Examiner states that Wigby discloses a recess disposed in the anvil to retain a collapsible terminal and a crimper disposed on a vertical ram, aligned with the recess. The Examiner further states that crimping blades 39 and 40 shown in Figure 1 are inherently mounted on some support with comprises the actuating means, indicating that the crimping blades are mounted on a vertical ram.

With respect to the rejected dependent claims 2, 8, and 16, the Applicants respectfully submit that these claims are not only allowable by virtue of their dependency from independent claims 1 and/or 14, but also because of additional limitations they recite. The Applicants respectfully submit that claims 2, 8, and 16 are patentable over the Wigby-Oto combination. Accordingly, the Applicants respectfully request that the Examiner reconsider and withdraw the rejections and allow claim 2, 8, and 16.

Wigby-Ota-Baldyga Combination

Claims 11 and 13 stand rejected under 35 U.S.C §103(a) as being unpatentable over Wigby and Ota as applied to claim 1, and further in view of U.S. Patent No. 5,564,613 issued to Joseph Baldyga on October 15, 1996 (hereinafter referred to as "Baldyga").

Baldyga teaches a terminal guide rail assembly for keeping a terminal positioned for accurate crimping and for allowing complete severance of a terminal from a strip of terminals, leaving no cut-off tail. (column 1 lines 21-28, column 4 lines 15-19). When guide rail 30 is

secured to a worktable 18, upper and lower lips 36, 38 grip an upper and lower surface of the worktable 18 so that the inner side 40 of a vertical mounting flange 32 is flush against a vertical edge of the worktable 18. (column 3 lines 7-11). The worktable 18 must be modified by adding a pair of tapped bores 26 to one edge of the table so that the table 18 may accommodate the guide rail 30. (column 2 lines 58-61).

The Examiner states that Wigby discloses the elements of the present invention, except for a rail for guiding successive collapsible terminals mounted on a carrier strip onto an anvil wherein a carrier brake is mounted on the rail and biased into frictional contact with the carrier strip. The Examiner asserts that Baldyga teaches the limitation not disclosed by Wigby. The Examiner concludes that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Wigby, in view of the teachings of Baldyga, by providing a rail for guiding successive collapsible terminals mounted on a carrier strip onto an anvil and wherein a carrier brake is mounted on the rail and biased into frictional contact with the carrier strip, in order to provide an efficient means of supplying terminals to the crimping apparatus.

For the reasons discussed above with regard to claim 1, the Applicants assert that claims 11 and 13 are not only allowable by virtue of their dependency from independent claim 1, but also because of additional limitations they recite. The Applicants respectfully submit that claims 11 and 13 are patentable over the Wigby-Oto-Baldyga combination. Accordingly, the Applicants respectfully request that the Examiner reconsider and withdraw the rejections and allow claim 11 and 13.

Nobuo-Wigby-Ota Combination

Claims 1, 2, 8, 14, and 16 stand rejected under 35 U.S.C §103(a) as being unpatentable over Japanese Unexamined Utility Model Publication No. JP4112490U of Nobuo Satoh et al. (hereinafter referred to as "Nobuo") in view of Wigby and Ota.

Nobuo teaches an apparatus for synchronously elevating a crimping die and lowering a wire-gripping device for the purpose of enabling accurate crimping of a terminal T. Wire-gripping claws 21 lower a wire 22 to a crimping position while crimping die D is operated to crimp terminal T. A linking mechanism 5 and cam 3 associate the motion of an elevating body 4 for raising claws 21 to the motion elevating motion of the crimping die D.

Regarding claims 1, 2, and 14, the Examiner states that Nobuo discloses: (1) an anvil configured to support a collapsible terminal; (2) a crimper aligned with the anvil, and being movable toward and away from the anvil to crush and release a terminal; (3) a guide member having an upwardly open guide groove provided close to the anvil and aligned therewith for supporting the component and guiding a conductive lead into the insertion hole in the terminal; (4) the guide member being linked via a link piece to a ram on which the crimper is mounted such that the guide member is caused to retreat from the component upon the downward motion of the crimper, before the crimper abuts the terminal; and (5) wherein a terminal placed on an anvil and having a conductive lead inserted in an insertion hole of the terminal is crushed by a crimper, thereby terminating the conductive lead. The Examiner concedes, and the Applicants agree, that Nobuo is silent as to whether or not the guide member has an upwardly open groove, and that Nobuo does not disclose a positioning plate for positioning the component by abutting the tip thereof, the positioning plate having an escape groove for allowing movement of the conductive lead during termination thereof.

The Examiner further states that Wigby teaches a crimping apparatus with a guide member having an upwardly open guide groove, while Ota teaches using a positioning plate to allow the tip portion of a component to be positioned at a suitable position before a crimping operation and that the positioning plate has an escape groove U-shaped opening whereby the wire can move during a crimping operation.

The Examiner concludes that it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the apparatus of Nobuo with a guide member having an upwardly open guide groove, in view of the teachings of Wigby, in order to allow a conductive lead to be easily guided into an insertion hole of a terminal, and with a positioning plate as recited in claim 1, in view of the teachings of Ota, in order to allow a component to be positioned at a suitable position.

Claim 1 requires the following, inter alia:

> a positioning plate for positioning the component to prevent interference between the crimper and the component by **abutting a tip of the component to the positioning plate**, the positioning plate having an **escape groove for allowing movement of the *conductive lead*** during termination thereof;
>
> wherein the guide member is **directly connected** via a link piece to a ram…

The Applicants respectfully traverse the rejection of claim 1 and submit that claim 1 is not obviated by the Nobuo-Wigby-Ota combination since the Examiner has not established a prima facie case of obviousness for at least the reasons explained below.

While the Examiner relies on Oto as teaching the positioning plate, as previously explained, the Applicant asserts that Oto does not teach a positioning plate for positioning the component to prevent interference between the crimper and the component by **abutting a tip of**

the component to the positioning plate, the positioning plate having an **escape groove for allowing movement of the *conductive lead*** during termination thereof. Further while the Examiner relies on Wigby for teaching of the guide member, as previously explained, the Applicant asserts that Wigby does not teach a guide member **directly connected** via a link piece to a ram on which the crimper is mounted such that the guide member is caused to retreat from the component upon the downward motion of the crimper, before the crimper abuts the terminal.

For the reasons discussed above, the Applicants respectfully submit that claim 1 is patentable over the Nobuo-Wigby-Oto combination. Accordingly, the Applicants respectfully request that the Examiner reconsider and withdraw the rejection and allow claim 1.

For reasons analogous to those discussed above with regard to claim 1, the Applicant asserts that claim 14 is patentable over the Nobuo-Wigby-Oto combination. Accordingly, the Applicants respectfully request that the Examiner reconsider and withdraw the rejection and allow claim 14.

Regarding claim 8, the Examiner restates that Wigby discloses an apparatus configured to allow insertion of a second conductor into a collapsible terminal disposed on an anvil in a direction perpendicular to a conductive lead and that a second conductor *could* be inserted in the terminal, indicating that the apparatus *allows* the insertion of a second conductor.

Regarding claim 16, the Examiner states that Nobuo discloses a recess in the anvil to retain a collapsible terminal and a crimper disposed on a vertical ram, aligned with the recess. The Examiner further states that there must be a recess in the anvil, otherwise, the terminal could move during the crimping process and produce a defective part.

The Examiner concludes that it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the anvil of Nobuo with a recess, in view of the teachings of Wigby, in order to retain a terminal on the anvil during the crimping process.

With respect to the rejected dependent claims 2, 8, and 16, the Applicants respectfully submit that these claims are not only allowable by virtue of their dependency from independent claims 1 and/or 14, but also because of additional limitations they recite. The Applicants respectfully submit that claims 2, 8, and 16 are patentable over the Nobuo-Wigby-Oto combination. Accordingly, the Applicants respectfully request that the Examiner reconsider and withdraw the rejections and allow claim 2, 8, and 16.

Nobuo-Ota-Wigby-Baldyga Combination

Claims 11 and 13 stand rejected under 35 U.S.C §103(a) as being unpatentable over Nobuo, Ota, and Wigby, as applied to claim 1, in view of Baldyga.

In rejecting claims 11 and 13, the Examiner combines Baldyga to the Nobuo-Ota-Wigby combination in an effort to provide the rail and the carrier brake as required by claims 11 and 13, respectively.

For the reasons discussed above with regard to claim 1, the Applicants assert that claims 11 and 13 are not only allowable by virtue of their dependency from independent claim 1, but also because of additional limitations they recite. The Applicants respectfully submit that claims 11 and 13 are patentable over the Nobuo-Ota-Wigby-Baldyga combination. Accordingly, the Applicants respectfully request that the Examiner reconsider and withdraw the rejections and allow claim 11 and 13.

Conclusion

For all of the foregoing reasons and in view of the foregoing amendments, the Applicants respectfully contend that the application is now in condition for allowance. The Applicants respectfully request entry of the foregoing amendments, reconsideration and allowance of claims 1, 2, 8, 11, 13, 14, and 16, and issuance of a Patent for the subject invention. If the Examiner cares to discuss anything presented here to further prosecution of this application, he is invited to contact the undersigned Attorney for the Applicant. Please charge any additional requisite fees relating to this amendment and response to Deposit Account No. 501581.

Respectfully submitted,

/sa/

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